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GUANGDONG AS A REGIONAL MODEL OF ECONOMIC DEVELOPMENT IN CHINA

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INTRODUCTION

The economic development of Guangdong has been outstanding since China started its reform and open-door policy. The real economic growth of Guangdong from 1979 to 1989 reached an annual average of 12.3 percent which was the highest among the 30 provinces and autonomous regions in China and exceeded that of China by more than 3 percent annually. As a result GDP *per capita* of Guangdong which never exceeded the national average until 1978 grew by more than 50 percent higher than national average. Guangdong now has power to influence economic development in China, both in speed and in scale. There are two factors why Guangdong has achieved rapid economic development. First, Guangdong was instructed to take special policies and flexible measures towards externally opening and reforming the economic system prior to other provinces in China. Secondly, the province's geographic and historical conditions; i.e. on the border with Hong Kong, Guangdong has been the birth place of overseas Chinese. Marketization of Guangdong has proceeded and at the same time Guangdong has taken an external-oriented development strategy because these two factors were integrated. Thus, Guangdong has achieved today's successful economic development.

The economic performance and reform policies over the last ten years provide a good lesson for discussion of the coastal regions of China which adopted similar policies for economic development and the development model of socialist countries which incorporated market principles into their own economic systems. In this paper we will discuss the economic development of Guangdong, as a regional model of economic development in China. The first part will deal with development of the reform and open door policy which forms the background for the implementation of marketization and the external-oriented strategy in Guangdong. The second part is devoted to an analysis of the structural transformation resulting from reform in Guangdong, through a comparison of economic performance between Guangdong and China, by using an economic development theory perspective. On the basis of the above analysis we come to, in the third part, the different implications of the distinct policies between Guangdong and China, and a better understanding of the development strategies of Guangdong and China.

I REFORM AND THE OPEN DOOR POLICY IN GUANGDONG

On the foundation of "The Decision of the Central Committee Concerning Reform of the Economic System", the article issued by the Third Meeting of the 11th Central Committee in December 1978, Guangdong together with Fujian became the pioneer of China's economic reform in November 1979. In order to smoothly and effectively carry out the reform and open-door policy, a series of special, privileged and more flexible measures were granted to the two provinces. Guangdong's initiative in making decisions about economic plans was recognized by the central government. Power over financial matters, resources, salary and price policies was transferred to local authorities. For treasury and foreign exchange, a loan unredeemable for five years was introduced. Responding to the open door policy, more power concerning external trade was given to the local authorities and three special economic zones were set up; namely Shenzhen, Zhuhai and Shantou. Soon after the establishment of the special economic zones, Guangdong also opened up Guangzhou and Zhanjiang as coastal open cities in 1984. The Zhujiang delta were appointed as economic developing regions in 1985, and the four coastal cities with 21 countries been so appointed in 1988. Since the reform and opening of Guangdong the economy ran smoothly, the central government appointed Guangdong as the "Comprehensive Experimental Region of Reform" in February, 1988. Structural reform was intensified to include finance, trade, labour, treasury, price, enterprise, agriculture, technology, education, economic and political institutions.

Over the last 11 years, Guangdong vigorously made use of the privileged and flexible measures given by the central government under the principles of "opening up to the exterior, mitigation in the interior, transference of power to the lower level authorities" to carry out reform of the economic system. As a result, Guangdong became the leading region in reform. For example, in the area of price reform, 86.5 percent of Guangdong's goods circulation was transacted through market and floated price, whilst goods transacted by fixed price were down to 13.5 percent in late 1990.¹ In 1979, 118 kinds of agricultural products were sold at fixed prices. This gradually decreased to 32 kinds in 1981, 13 in 1984, and six in 1985. Only foodstuffs, cane-sugar and silk were under fixed prices in 1988.² However, even these three kinds of agricultural products were multi-priced and most of them were sold at market prices. Industrial consumer goods lead in incorporating the market price system. There were 392 kinds of industrial consumer goods whose prices were under state control in 1979. Goods at fixed prices are now reduced to include only those industrial consumer goods like salt, cotton fabrics, plastic materials, pulp and newspaper. Apart from only 60 items, which transact by floated prices, most industrial consumer goods were sold at market prices. For production goods, there were 1446 items under fixed price in 1979, but now 300 of them are sold at market prices. Though there are still 1100 items under state control, they are actually

multi-priced with 20 percent sold at fixed price and 80 percent at floated or market price. In the service sector, all but transport, the postal service, electricity supply and some public utilities are paid for according to market price. Table 1 is a comparison of the change in price systems of Guangdong and China. We can see, simply from these figures, that Guangdong is more advanced in its price reform. Given that there is not a 100 percent of goods circulation transacted through market price in any country, the price system of Guangdong is actually close to that of the West.

Table 1 COMPOSITION OF PRICE FORMS

(%)

Agricultural Products Sales	Guangdong Province					China
	79	86	88	89	90	89
Fixed price	91.3	23.9	20	17.3	14.8	35.3
Floated price	} 8.7	} 76.1	} 80	22.4	20.4	24.3
Market price				60.3	64.8	40.4

Sales of Producer Goods	Guangdong Province					China
	78	85	88	89	90	89
Fixed price	100	44.2	30	N.A.	18.1	60
Floated price	0	21.3	} 70	N.A.	} 81.9	} 40
Market price	0	31.5		N.A.		

Sales of Consumer Goods	Guangdong Province					China
	79	86	88	89	90	89
Fixed price	97.2	20.3	13.5	11.3	11.7	31.3
Floated price	} 2.8	} 79.2	} 86.5	2.2	10.9	23.2
Market price				86.5	77.4	45.5

Source: Liu, Shijing (1988), Wen Wuhan (1991), *Yangcheng Wanbao*, 12 May 1991 and *Yearbook of Commodity Price in China 1990*.

Enterprise reform is another major part of economic reform. Autonomy of enterprises, diversification of public ownership, concentration of enterprises, and an experimental share system have been practised. Concerning the

autonomy of enterprises, the government passed a series of corporate laws. These laws enable corporations to have autonomy on 13 items such as their own production plans, plans for purchase of materials, market promotion, distribution of wages, appointment of managers and cooperation between corporations. Profit distribution employs a contract management responsibility system under which the corporation can reserve part of its profits. As for diversification of ownership, state-owned enterprises which are symbols of socialism are diminishing in Guangdong. The ratio of industrial production value of state-owned enterprises to total provincial industrial production value has been reduced from 63 percent in 1980 to only 38 percent in 1989. The production ratio of private enterprises, village enterprises and joint forms,³ as foreign invested enterprises, has been increasing as shown Table 2. Over 50 percent of enterprises in Guangdong are managed according to the market situation rather than by the administrative directives. As for forming corporation groups, there have been 307 corporation groups formed, including village enterprises. More rights, such as right of foreign trade have been granted to these groups. In the Shenzhen and Zhuhai Special Economic Zones, share systems were introduced to almost 80 companies. The shares of six of them which were incorporated in Shenzhen are permitted to list on the stock market.

**Table 2 COMPOSITION OF INDUSTRIAL PRODUCTION VALUE
BY TYPE OF OWNERSHIP**

(%)

By Type of Ownership	Guangdong Province				China
	1980	1985	1988	1989	1989
State-owned	63.0	52.5	41.2	37.5	56.1
Collective	26.6	30.5	31.0	28.6	35.7
Private, Village	8.5	12.4	15.7	16.6	4.8
Joint forms	1.9	4.6	12.2	17.2	3.5
Total	100.0	100.0	100.0	100.0	100.0

Source: *Statistical Yearbook of Guangdong*, various issues and *Statistical Yearbook of China 1990*.

During the past 11 years, Guangdong carried out reforms in many other areas such as in the financial system, the foreign trade system, and the treasury system. Thus, to swiftly reform the economic system by incorporating market principles to the socialist system is, without doubt, advantageous to Guangdong's economic development. However, the reform of the economic system in Guangdong, excluding price reform, is just a transitional stage towards the complete independence of enterprises from governmental directives and towards the purification of enterprises as a rational subject of economic activity.

Therefore, enterprise reform and reforms in the financial system, foreign trade system, social security, etc., toward the formation of industrial organizations will be the major issues of furthering economic reform in Guangdong in the future.⁴

II ECONOMIC DEVELOPMENT AND STRUCTURAL CHANGES

There have evolved great differences in economic performance between Guangdong⁵ and China since the start of the open door policy. This can be shown by the structural changes in their economies. In contrast to slow changes in China overall, Guangdong has experienced rapid structural changes in her economy over the past 11 years. We will use Chinese macro-economic statistics⁶ to carry out a comparative analysis of the structural changes in Guangdong's economy with that of China from the demand and supply side, in turn.

(1) *Changes in Structure of demand*

Table 3 and 4 show the gross national expenditure of Guangdong and China, the composition ratio, contribution ratio, and their annual average rate of growth. Statistics pertaining to China's national income on expenditure are limited to the nominal value and comparative price index of national income used which are composed of consumption and accumulation. Therefore, for purposes of estimation, fixed assets of accumulation was replaced by investment in fixed assets and added to the trade balance. Since the Guangdong economy is a regional economy, inter-regional trade should be included. However, the inflow/outflow of inter-regional trade statistical data is not complete, so we put it aside for the moment. Despite the limitations of the statistical data used, we can still see the characteristics of Guangdong's economy and China's economy. First, we analyze the major items of expenditure, such as private consumption expenditure, total fixed capital formation, inventory investment, and imports and exports, then we summarize the demand structure characteristics of Guangdong and China.

Expenditure on private consumption has increased at a steady rate in Guangdong as well as China. In the 11 years following "the opening", the contribution ratio to economic growth rate of Guangdong has averaged 5.5 percent per annum compared to the national average of 4.5 percent. In other words, private consumption contributes to the economic growth rate of Guangdong and China by about 5 percent annually. Guangdong and China have a steady growth in private consumption, independent of business conditions, except in 1981 and 1989. Therefore, the decreasing rate of private consumption does not match that of the economic regress and the increasing rate, also, does not match with that of prosperity namely private consumption is a stabilizing factor in business cycles. The absolute value of private consumption in Guangdong and China contribute to maintain a steady and comparatively high growth rate. But to say that private consumption expenditure is the major factor

**Table 3 COMPOSITION OF CONTRIBUTION OF GDP:
GUANGDONG PROVINCE**

	private consumption expenditure	public consumption expenditure	gross domestic fixed capital formation	inventory investment	trade balance		GDP	
					export	import		
(%)								
[composition of GDP:nominal]								
1978	53.6	3.6	14.7	9.9	11.0	12.9	1.9	100.0
1984	52.3	4.9	29.5	4.1	6.8	12.5	5.7	100.0
1988	46.8	5.4	30.2	17.5	8.0	25.3	17.3	100.0
1989	43.7	6.1	22.8	17.5	9.5	23.2	13.7	100.0
[contribution to GDP]								
1979	6.1	0.1	0.4	△ 1.4	0.8	0.9	0.1	7.8
1980	14.6	1.1	4.1	△ 0.5	2.0	2.7	0.6	16.0
1981	2.8	0.3	4.8	2.9	0.2	1.5	1.3	8.4
1982	5.2	0.5	5.8	△ 1.7	△ 0.4	0.5	0.9	11.3
1983	3.9	0.6	1.0	△ 0.5	0.4	1.3	0.9	6.7
1984	5.2	0.9	7.3	0.2	0.2	1.4	1.2	14.8
1985	9.7	1.2	9.8	12.2	△ 2.7	5.8	8.5	20.1
1986	5.3	1.0	2.9	△ 0.6	5.9	8.2	2.3	11.3
1987	7.5	0.6	2.9	5.0	0.8	5.6	4.8	17.7
1988	6.3	1.0	5.2	3.3	1.1	4.0	2.9	15.6
1989	1.9	0.7	△ 1.1	1.2	1.2	0.8	△ 0.3	7.0
78-84	5.5	0.6	4.3	0.0	0.4	1.3	0.9	10.8
84-89	5.6	1.0	2.8	3.5	1.5	4.1	2.5	14.2

Note 1: Nominal GDP is calculated by using following figures:

- a. private consumption expenditure and public consumption expenditure are from private consumption and public consumption in national income.
- b. gross domestic fixed capital formation is from Investment in fixed assets.
- c. inventory investment = (current assets ÷ accumulation) x Investment in fixed assets.
- d. trade is shown in yuan exchanged from US dollar by official rate at the time.

Note 2: Contribution to GDP is calculated by multiplying real GDP growth and nominal contribution to GDP.

Source: *Statistical Yearbook of Guangdong*, various issues and Chen, Kexuan (ed) (1989).

Table 4: COMPOSITION OF CONTRIBUTION OF GNP: CHINA

	private consumption expenditure	public consumption expenditure	gross domestic fixed capital formation	inventory investment	trade balance		GNP	(%)
					export	import		
[composition of GNP:nominal]								
1978	46.6	6.0	21.8	8.5	Δ 0.6	4.7	5.2	100.0
1984	48.8	7.3	26.3	6.2	Δ 0.6	8.3	8.9	100.0
1988	50.0	7.5	32.2	8.3	Δ 2.1	12.6	14.7	100.0
1989	49.0	7.4	26.2	15.3	Δ 1.5	12.4	13.9	100.0
[contribution to GNP]								
1979	4.4	1.3	1.0	0.4	Δ 0.2	0.8	1.0	7.6
1980	5.2	0.4	0.9	Δ 0.8	0.1	1.0	0.9	7.8
1981	3.7	0.3	1.0	2.0	0.4	1.4	1.0	4.5
1982	4.5	0.8	5.6	Δ 1.4	1.2	1.0	Δ 0.2	8.7
1983	4.5	0.6	3.3	0.6	Δ 0.7	0.4	1.1	10.3
1984	5.5	1.4	5.1	0.7	Δ 0.7	1.8	2.5	14.6
1985	6.7	1.0	5.7	4.6	Δ 3.3	1.8	5.1	12.7
1986	3.9	1.0	3.5	0.2	0.2	2.0	1.8	8.3
1987	5.0	0.7	4.3	Δ 1.7	1.9	2.7	0.8	11.0
1988	6.1	0.6	3.5	1.6	Δ 0.6	1.2	1.8	10.9
1989	1.5	0.3	Δ 0.7	2.5	0.1	0.4	0.3	3.6
78-84	4.5	0.8	2.8	0.3	Δ 0.1	1.1	1.1	8.9
84-89	4.6	0.7	2.4	2.1	Δ 0.2	1.5	1.7	9.3

Note: Calculation was done by same procedure in table 3.

Source: *Statistical Yearbook of China 1990*.

leading the rapid economic growth in China and Guangdong since the reform is far from convincing, especially in the case of Guangdong. In the first half of the 1980s, the composition ratio of private consumption in Guangdong province was over 50 percent, whilst in the late 1980s the ratio dropped to the 40 percent level.

How about the investment on total fixed capital formation after the opening? Since Guangdong was the highlighted region for economic reform, the province enjoyed various special policies and measures. As a result, the total fixed capital formation increased quickly. Table 3 showed that the fixed capital formation has been the engine of Guangdong's economic growth. The total fixed capital formation ratio was raised from 15 percent in 1978 to 30 percent in 1984. It is still steadily increasing and leading Guangdong's economy. A thirty percent investment share is comparatively high, and in only five years Guangdong province was able to catch up with the rapidly growing ASEAN countries. The tremendous escalation of investment contributed to an increase of 4.3 percent in average annual growth for Guangdong's economy in the first stage of the reform (1978-1984). The province had a great positive desire for investment because of renewal of basic facilities and the aged machinery of enterprises.⁷ Such strong investment demand was materialized mainly by rapid growth of funds separated from the budget. First, the reserves of profit in enterprises increased during the reform process, and in the meantime, the enterprises gained self-determination of the investment fund because of their expansion of autonomy. Secondly, fund resources for basic construction investment was shifted from the subsidy of the national budget to bank loans, but because the financial reform was premature, it largely stimulated the economy. This was the time when China was in the process of economic reform, and was unable to suppress the rapidly increasing investment demand within the ordinary economy since her macro-economic management was insufficient. As a result, not only in Guangdong province, but also in the whole of China, economic overheating was generated and inflation occurred. By the end of 1988 when economic overheating was at its peak, the Chinese government adopted an economic adjustment policy, and in 1989 gross fixed capital formation was stepped back largely because of the further tightening of financial and banking policy.⁸

One of the characteristics of the Chinese demand structure is a high rate of inventory investment. Guangdong's inventory investment amounted to 7 percent of the national income in the fifth-five year plan, 5.3 percent in the sixth plan (6.9 percent for the national rate), and 12.5 percent in the seventh plan (9.4 percent for the national rate). It was even higher in the late 1980's. There are three reasons for the generally high rate of inventory investment in Guangdong and China. First, the underdevelopment of the transportation network. Secondly, the dead stocks caused by production activity through the neglect of the demand side. Thirdly, the precautionary and speculative actions taken by enterprises. The first two reasons can explain the situation, if the potentially high level of inventory investment in China since pre-opening policy is

considered. But for the late 1980's, the third reason better explains the rapid expansion of inventory investment. Since the price reform, enterprises have had to procure their raw materials through the market instead of government rationing. When the shortage of raw materials supply became serious in late 1980's, enterprises had to increase the investment on stocks of raw materials to secure a steady supply. Moreover, the economy tended towards overheating so that presumably, aiming for an inflationary hedge and with assets rising in price, speculative actions occurred in this period. The high rate of Guangdong's investment on stocks is also the result of trade obstacles between Guangdong and other inland provinces. Guangdong became more reliant on inland provinces as the supplier of raw materials and the market for consumer goods from late 1980's on. However, at the time of economic expansion, Guangdong increased her imports of raw materials from inland provinces which caused a shortage of supply inside those provinces. The inland provinces then stopped selling their raw materials to Guangdong. At the same time, inland provinces stopped the inflow of Guangdong products already known for their high quality and better design, to protect their own enterprises with large amounts of stock in the recession. Therefore, the enterprises in Guangdong had to intentionally keep excessive stocks in order to face an unstable supply of raw materials and intermediate goods in times of a business upturn; and they faced unexpected stocks in the recession. The contribution to GDP of the inventory investment in Guangdong is 3.5 percent compared to 2.1 percent nationally, in the second stage of the reforms. This indicates some underlying problems in the structural economic reforms.

Private consumption expenditure, total fixed capital formation, and inventory investment in Guangdong differs slightly from China overall since the inception of the reforms; however, they share the same trend of change. The external demand of Guangdong is different from that of China. Since 1978 Guangdong has benefited from favourable reform policies and great progress not only in attracting foreign investment, but also in foreign trade, was made. The volume of trade has seen an annual average increase of 30 percent over the past 11 years. The ratio of international trade to the GDP in Guangdong has been raised from 15 percent in 1978 to 43 percent in 1988, 16 percent higher than China. Furthermore, one of the characteristics of the international trade of Guangdong is its consistent excess of exports to imports. The trade surplus is about 30 percent of export value every year. Excluding the fact that the surplus is due to processing commissioned by Hong Kong companies, the trade balance is basically a surplus. The trade surplus value of Guangdong excluding 1985 is 8-11 percent of the GDP and its contribution ratio of external demand is always positive except in 1982 and in 1985. Given these circumstances, it can be said that there is no "ceiling on a trade balance" in Guangdong's economy. Then, what about the national trade structure? The total value of China's trade increased from 1978 and its trade dependent rate increased from 10 percent in 1978 to 27 percent in 1988. However, except for 1981 to 1983, the trade balance was continually in the red, and especially after 1985 the deficit was more

pronounced. Judging from the contribution of external demand, "the ceiling on a trade balance" can be seen clearly. When the domestic demand such as fixed capital formation and private consumption expenditure expands and the economy shows signs of overheating, the contribution of external demand turns instantly negative. As aforementioned the activity of foreign demand is definitely different in Guangdong as opposed to China overall.

The difference in the structure of trade is firstly the result of the difference in export goods between Guangdong and China. Guangdong export goods consist of light industrial products and garments (53 percent), heavy industrial and mining (20 percent), and agricultural and processing (27 percent) (See Table 5). On the other hand export goods from China consist of light industrial products and garments (44 percent), heavy industrial and mining (10 percent), and agricultural and processing (46 percent). The industrial products which generally have a high income elasticity of export account for 70 percent of Guangdong's total exports. In contrast, about half of China's exports are primary products which have a low income elasticity of export. The differences in their trade structures have had great influences on the increasing export rate of Guangdong and China. The second reason for the difference in their trade structures is the speed of economic reforms and the degree of "openness". In Guangdong province an export license is permitted to the enterprises and the local authorities compared to China. The province also enjoyed an 80 percent preservation of its foreign currency, though such a percentage varies between the regions. Moreover, foreign currency is easily exchanged in Guangdong at the real rates. Thus, Guangdong enterprises have definite advantages when exporting their goods. Finally, since Guangdong is adjacent to Hong Kong, it can easily access information on exploring new markets, on advanced technology and on new product design.⁹

We now summarize in three points the structure of demand in Guangdong's economy in the past 11 years.

Firstly, the growth of gross fixed capital formation and inventory investment and their share of GDP are distinctively high. The growth of gross fixed capital formation from 1978 to 1985 and the growth of inventory investment since 1986 are especially conspicuous.

The second characteristic is the rapid growth of exports. That is why the export ratio increased and reached the level of 25 percent of total domestic expenditure in 1988.

Finally, private consumption expenditure is steady. Although the share of private consumption has pushed back up total fixed asset formation and export growth, we can see from the contribution ratio that private consumption shows real growth of over five percent.

Table 5 COMMODITY COMPOSITION OF EXPORT AND STRUCTURAL CHANGES

(%)

	agricultural by-products	processed agricultural products	textile products	industrial and mineral products
[Guangdong]				
1980	32.0	9.7	31.9	26.4
1989	19.4	7.6	53.2	19.8
structural changes	△ 12.6	△ 2.1	21.3	△ 6.6
[China]				
1980	18.7	29.5	33.7	18.1
1989	15.2	31.2	43.8	9.8
structural changes	△ 3.5	1.7	10.1	△ 8.3

Note: Structural changes = (share of each exporting goods in 1989) – (share of each exporting goods in 1980)

Source: *Statistical Yearbook of Guangdong*, various issues and *Almanac of China's Foreign Economic Relations and Trade 1986 & 1989*.

We can see from the above that the cycle of gross fixed investment and export which is a major driving force of Guangdong's economic progress is preferable. The increase of exported labour-intensive industrial products raised the "ceiling on a trade balance" and had much to do with the economic growth of Guangdong. However, the Guangdong economy faces some problems. The high ratio of inventory investment in recent years has revealed incompleteness in the construction of infrastructure and highlighted an insufficient reforms of the economic system, including enterprise reform, circulation reform, macro-economic control reform etc. Since the economic reform was not thorough enough, the total demand of gross fixed investment formation, inventory investment, private consumption could not be controlled. As mentioned before this is the reason for the serious inflation in Guangdong.

The economy of China shows the same tendencies as Guangdong in terms of structural change. But an obvious difference is in the role of external demand. Gross fixed capital formation is the engine of China's economy and external demand is the brake on economic growth. Since most of China's imports are spare parts and capital goods, the income elasticity of imports is very high. Imports tends to increase rapidly with upturns in business. On the other hand, in times of fluctuating economic conditions overseas the low income elasticity of exports remains comparatively neutral. Therefore, the "ceiling on a trade balance" in China is low, disturbing continuous economic growth. On this point Guangdong is quite different in the structure of trade.

(2) *Changes in Structure of supply*

Generally, economic growth and industrial structure in terms of the supply side can be approached by the conditions of capital, labour, natural resources and production technology. Since until recent years natural resources in Guangdong province were left undeveloped, capital and labour together with technology are very important when economic development after the reform and open door policy is analyzed. Firstly, Harrod-Domer's theory of economic growth can be used for analyzing the contribution of capital formation toward GDP growth. The labour force will also be discussed.

(a) **Capital-Output Ratio (COR) and Investment Share of Income**

An equation of Harrod-Domer's theory is

$$GC = s$$

(G: GDP growth rate, C: Incremental Capital-Output Ratio (ICOR), S: Saving Share of Income).

But here I take this as macro-ratio after-the-fact equation. Therefore, the saving share of income and investment share of income are considered as the same. From above equation,

$$C = s \div G$$

Taking "s" in three patterns such as the ratio of accumulation of national income¹⁰ for condition (A), the ratio of fixed assets of national income for condition (B), and the ratio of investment in fixed assets to the GDP after 1980 for condition (C), the ICOR of Guangdong and China are obtained in Table 6. The investment share (A) and the ICOR (A) in Table 6 include inventory investment which is excluded in (B) and (C). From these figures we can conclude that both the low ICOR and high investment share account for the economic growth of Guangdong after the reform. However, owing to the fact that the national ICOR remains at a high level compared to Guangdong, the major reason for the economic growth in China is the increase in the investment share. Furthermore, we can summarize three more points from the table: (1) the investment share of Guangdong compared with that of China was extremely low before the reform; (2) the investment share of Guangdong increased rapidly after the reform and has reached the national level in recent years; (3) after 1970, increases in the investment share for both China and Guangdong have raised the ICOR; however, the ICOR of Guangdong is still lower than that of China.

The ICOR (B) for Guangdong fluctuates around 2.5 in the 1970's and between 1.5-2 in the 1980's. This is low when compared with that of other

Table 6 CHANGE OF MARGINAL CAPITAL COEFFICIENT

		53-57	58-62	63-65	66-70	71-75	76-80	81-85	86-90	
G u a n g d o n g P r o v i n c e		8.7	Δ 1.2	13.2	3.5	6.0	7.1	12.2	12.3	
	Investment share of income (A)	16.4	24.2	11.5	14.2	20.7	24.1	26.4	35.7	
	(B)	7.2	13.4	5.0	5.6	15.0	17.1	21.1	23.2	
	(C)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	23.3	29.6	
	ICOR (A)	1.9	-	0.9	4.1	3.5	3.4	2.2	2.9	
	(B)	0.8	-	0.4	1.6	2.5	2.4	1.7	1.9	
	(C)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	1.9	2.4	
	C h i n a	GNP	8.9	Δ 3.1	14.7	8.3	5.5	6.1	10.1	7.7
		Investment share of income (A)	24.0	33.2	17.2	23.9	31.8	33.2	30.1	36.4
(B)		14.1	23.7	13.7	16.0	22.4	25.4	23.2	27.0	
(C)		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	22.9	30.3	
ICOR (A)		2.7	-	1.2	2.9	5.8	5.4	3.0	4.7	
(B)		1.6	-	0.9	1.9	4.1	4.2	2.3	3.5	
(C)		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	2.3	3.9	

Note 1: GDP growth means annual average real growth. However, for figures in China, from 1953 ~ 80 gross national income, and from 1981 ~ 90 annual average real growth are used.

Note 2: Investment share of Income is explained in the text.

Note 3: Incremental Capital-Output Ratio (ICOR) = (Investment share of income) ÷ (GDP Growth rate)

Source: as for Table 3 and 4.

developing countries. Moreover, though the investment share increased in 1980's, the ICOR for Guangdong, on the contrary dropped. This contributed to the rapid growth of the Guangdong's economy. Following, we will examine the reasons for maintaining a low level of the ICOR.

There are three reasons for the sustenance of the ICOR at a low level in Guangdong. First, there was a population surplus, and the capital supply was insufficient. Secondly, investment concentrated more on the production sector. Thirdly, the increase of labour productivity was very obvious. The population surplus and the inadequacy of capital had well described the Guangdong economy until 1970. The investment share in Guangdong was extremely low and the capital-output ratio (COR) moved towards a lower level. Thus, since the capital *per capita* was kept at a low level, labour productivity was considered to be at a low level. However, after 1970 the investment share in Guangdong tended to increase. Therefore, "the population surplus and the inadequacy of capital" alone cannot explain why the increase in the investment share after 1970 coexisted with a low level of the ICOR. The second reason, the allocation of investment, is also unable to explain the low level of the ICOR after 1970. In fact, the share of the production sector in investment in Guangdong decreased while the share of the non-production sector in investment, such as housing, increased in the fourth five year plan in Guangdong.¹¹ Under ordinary conditions, such as an increase in the share of the non-production sector in investment should have pushed up the ICOR. However, the ICOR went also down after the second half of 1970's. As a result, only the third reason mentioned above can explain the low level of the ICOR for Guangdong after the reform. The COR will decrease if the capital-labour ratio increases, but the increase of labour productivity is higher than that of the capital-labour ratio brought along by the increase in the investment share. When the COR is decreasing, the ICOR remain below the COR.¹² Although we cannot prove the above by using current capital labour ratio statistics since they are insufficient. Only the increase in labour productivity in Guangdong after the reform provides evidence. The average annual growth of labour productivity in Guangdong in the past 11 years increased to 9.4 percent. Therefore, we can infer that the high increase in labour productivity is the major reason for the low ICOR.

Generally speaking, China's ICOR is higher than that of Guangdong, but their long term movement is very similar. Although compared with the 1970's, we could not see such change in the investment share in the 1980's, the ICOR dropped. This is because labour productivity at the national level increased after the reform of the economic system during the 1980's. The national labour productivity had a real growth of 5.9 percent after the reform. However, it is 3.5 percent less than Guangdong. The difference between the increase of labour productivity Guangdong and China is one of the reasons for the differences in the ICOR.

(b) Labour and the Change in the Structure of Employment

One more factor which supports the rapid economic growth of Guangdong from the supply side is labour.¹³ We can conclude that the Guangdong economy after the reform has a comparatively strong labour absorbency. In the past 11 years, the number of employees has shown an average annual increase of 2.7 percent. This increase is not only higher than that before the reform (2.3 percent) but is also higher than the average annual increase of population before and after the reform (2.2 percent, 1.6 percent respectively). Therefore, the increase in employment is not only due to the natural growth of labour but also to the absorption of surplus labour.

However, in the process of economic development, how is such a growth in the labour force reflected in the structure of employment? Table 7 shows that the labour force in the primary industry sector decreases drastically. The share of employees in this sector is down 20 percent in terms of the labour-composition ratio. In fact, in Guangdong province the number of labourers in the primary industries have decreased gradually. The secondary and tertiary industries absorb the labour force released by primary industries.¹⁴ Behind this rapid change in the structure of employment is the rural area reform. A series of reforms in the rural areas including the contract responsibility system, the recognition of the family plot and the introduction of a free market result in the diversification of rural society. A potentially surplus labour force has inflected from the rural areas to the industrial, transportation and commercial sectors.¹⁵ The township enterprise is a typical case in which labour and production shift from the agricultural sector to other sectors in the rural areas.

Table 7 COMPOSITION AND GROWTH OF LABOUR FORCE

	Guangdong Province				China			
	primary (%)	secondary (%)	tertiary (%)	total (ten thousand)	primary (%)	secondary (%)	tertiary (%)	total (ten thousand)
[composition]								
1978	73.7	13.7	12.6	2.276	70.7	17.6	11.7	40.152
1984	63.7	18.9	17.4	2.638	64.2	20.2	15.6	48.197
1989	53.7	24.6	21.7	3.041	60.2	21.9	17.9	55.329
[average growth p.a.]								
1978-84	0.0	8.1	8.2	2.5	1.4	5.5	8.2	3.1
1984-89	▲ 0.6	8.5	7.5	2.9	1.5	4.5	5.7	2.8
1978-89	▲ 0.2	8.2	7.9	2.7	1.5	5.0	7.0	3.0

Source: as for tables 3 and 4.

Exactly how many labourers moved into the industrial and service sectors is a very interesting question, even from the point of view of economic development theory. Presuming that the increase of labour which occurred from 1978 to 1989 was absorbed into each sector at the same ratio as in 1978, then the figures on Table 8 can be obtained. Over the past 11 years annual average of 2.9 percent or 6.08 million employees in Guangdong transferred from the agricultural sector to other sectors of which 55 percent or 3.31 million have moved to the industrial sector with the remaining 45 percent or 2.77 million to the service sector. If the period of reform and open-door is divided into two stages (1978-1984 and 1985-1989), labour mobility has undergone more changes in the second stage showing that the labour absorbency of industries has been strengthening. These changes in labour mobility correspond to the rapid economic growth of Guangdong. Thus, it would never have been achieved without the structural change in employment, that is, the transference of agricultural labour to the industrial sector.

Table 8 LABOUR FORCE CHANGES IN INDUSTRY

(ten thousand %)

	Guangdong Province			China		
	primary	secondary	tertiary	primary	secondary	tertiary
78-84	Δ 264	138 (52)	127 (48)	Δ 3,133	1,253 (40)	1,880 (60)
84-89	Δ 304	173 (57)	131 (43)	Δ 2,213	941 (43)	1,273 (57)
78-89	Δ 608	331 (55)	277 (45)	Δ 5,810	2,379 (41)	3,431 (59)

Note: Labour force increased in apart times were considered to be naturally absorbed in each sectional composition at the initial time. Thus,

$$\Delta L_1 = L_1^t - L_1^{t-1} \times \frac{L^t}{L^{t-1}} = L^t \times \left[\frac{L_1^{t-1}}{L^{t-1}} - \frac{L_1^{t-1}}{L^{t-1}} \right]$$

Source: as for Table 7.

The national structure of employment is different from that of Guangdong. Although both show the same trend of labour force shifting from primary to secondary and tertiary industries, they are different in three aspects. First, the change in the national structure of employment is slower than that of Guangdong. Not only does the composition ratio of the labour force among the three industrial sectors at the national level change little, but also the absolute number in the labour force in agriculture slightly increases although the absolute number in the labour force in Guangdong decreases. The second difference concerns where the labour from agriculture shifts to. In Guangdong, the labour

force from agriculture shifts to the industrial sector rather than the service sector. However, at the national level, labour shifts to the service sector instead of the industrial sector. Thirdly, although the national economic growth in the second stage of the reform was very high, changes in its structure of employment, however, is less than in the first stage.

Next, the change of the structure of employment in the context of labour productivity will be analyzed. In both China and Guangdong, the differences of labour productivity among the three industries are great. The industrial sector enjoys the highest labour productivity. The second highest is the service sector. In Guangdong, mobility from the low productivity agricultural sector to the high productivity industrial sector composes the largest share of labour mobility. Therefore, the sequence in terms of rate of labour productivity increase is the agricultural sector, the tertiary service sector and the industrial sector respectively. Differences of labour productivity are narrowed. On the other hand, the major national labour mobility is not towards the industrial sector but the service sector, though the labour productivity of the industrial sector is higher than that of the agricultural and the service sectors. The industrial sector is weak in absorbing labour and low in labour mobility so that the difference in labour productivity widens. This tendency is even more perspicuous in the second stage of the reform. Labour is forced to stay in the inefficient agricultural sector or be absorbed into the relatively less productive service sector. As a result, labour moves from the low productive sector to the high productive sector in Guangdong, but labour mobility is very low at the national level. There are two reasons for the stagnation of national labour mobility. First, labour mobility is hindered by the social and institutional system. Secondly, the pattern in the nation-wide industrialization is not labour used type. We will discuss this later in the section on comparative labour productivity.

(c) Changes in Industrial Structure

Economic growth not only changes the structure of employment but also the industrial structure. Generally speaking, the change in industrial structure precedes that of the structure of employment, and the degree of change in industrial structure is greater than in the structure of employment. However, this sequence was reversed in the Guangdong economy after the reform. In Table 9, the composition of GDP and the contribution ratio of each sector are listed at constant prices. We can summarize two characteristics of the industrial structure in Guangdong from this table.

First, the ratio of secondary industry is perspicuously high. If we consider secondary industry as the industrial sector, the industrialization ratio of China and Guangdong is over 40 percent. The industrialization ratio is very high compared with the agricultural composition which accounts for half of total Chinese labour force. This is because China had already adopted the industrialization strategy in the pre-reform period. The industrialization process

which developing countries have undergone in reallocating emphasis from primary industry to secondary was already completed in the 1950's in China. That is why industrial structural change has been so slow in China recently.

Table 9 COMPOSITION AND CONTRIBUTION OF GDP

(%)								
	Guangdong Province				China			
	GDP	prim-ary	sec-on-dary	tertiary	GNP	primary	sec-on-dary	terti-ary
[composition:nominal]								
1952	100.0	48.7	22.7	28.6	100.0	57.7	23.1	19.2
1978	100.0	29.9	46.4	23.7	100.0	28.4	48.6	23.0
1984	100.0	32.9	41.6	25.5	100.0	33.0	44.6	21.9
1989	100.0	26.8	40.3	32.9	100.0	26.8	46.7	26.5
[composition:real (price in 1978)]								
1978	100.0	29.9	46.4	23.7	100.0	28.4	48.6	23.0
1984	100.0	26.6	49.0	24.4	100.0	26.2	49.1	24.8
1989	100.0	18.0	53.1	28.9	100.0	19.2	54.6	26.3
[contribution:real]								
1952-78	5.2	0.6	3.7	0.8	6.0	0.5	4.8	0.7
1978-89	12.3	1.7	6.8	3.8	9.0	1.2	5.2	2.5
(1978-84)	(10.8)	(3.4)	(4.3)	(3.1)	(8.9)	(3.0)	(2.6)	(3.2)
(1984-89)	(14.2)	(1.3)	(8.1)	(4.8)	(9.3)	(0.7)	(5.9)	(2.7)

Note 1: Data for Guangdong is taken from GDP statistics, data for China is from national income 1952 and GNP statistics after 1978.

Note 2: Figs are calculated by using price at 1952 for 1952-1978; price at 1978 after 1978.

Source: as for Tables 3 and 4.

Secondly, the composition of GDP in nominal and real values are very different. We cannot observe any structural change if we only consider the nominal value but the real value clearly reflects structural change. The composition ratio of secondary industry in Guangdong is declining in terms of nominal value, but is increasing in terms of constant price. The composition ratio of primary industry is decreasing in terms of constant price value. This is only a product of the process of price reform in correcting the past relative price.¹⁶ Though in terms of actual production, the industrial sector is the leading factor of economic growth. The tremendous changes in relative price have

undermined the contribution of the industrial sector to the whole economic performance of Guangdong.

Since the reform, the agricultural and service sectors have both performed well in Guangdong. However, industry functioned as engine of the economy. We can see from the contribution ratio by industry from 1978 to 1989 that industry is the highest (56 percent), service the second (31 percent) and agriculture the third (14 percent). Nevertheless, in the first stage of reform, the agricultural contribution ratio was comparatively high. It decreased in the second stage of reform while the contribution of industry became obvious. This trend is more perspicuous at the national level. This well shows the way of economic reform. China's reforms start from agriculture in the first stage, so the output of agriculture increases. In the second stage, the emphasis shifts to industry and results in its development. In the following, we will discuss, in brief, how the structures of agriculture and industry change in the process of economic development.

The development of fishery, animal husbandry and the production of other agricultural products like sugar-cane, fruits and vegetables bring an increase of agricultural products in Guangdong. In contrast to the detention of crops productivity rate at 19 percent, the increases in the productivity of sugar-cane, fruits, fishery and fresh meat are doubled, 8.4 times, 2.9 times and 2.8 times respectively. The ratio of crops growing in agricultural production dropped from 66 percent in 1978 to 49 percent in 1989. The proportion left was filled by animal husbandry and fishery (See Table 10). This alternative product composition in agricultural production was an adaptation to the foreign market, especially increased export to Hong Kong. Until recently, there were about 3200 successful cases introducing foreign investment in agricultural production in the Zhujiang delta. Along with foreign investment came advanced technology, new facilities and seeds of various crops. The final products mainly served the Hong Kong market. There are about 2000 processing factories and exporting bases of agricultural products.¹⁷ The export of agricultural by-products and processed products from Guangdong reached 14.2 billion US dollars in 1989, about 27 percent of total exports, an increase of 63.4 percent compared to 1980.

There have been great structural changes in Guangdong's industry. Traditionally light industry was main industry in Guangdong, but after the establishment of new China heavy industry was also propelled. However, after the reform light industry dominated in Guangdong (See Table 11). Despite the nation-wide tendency to increase the proportion of light industry, the proportion of light industry in Guangdong remains outstanding. A high proportion of processing industry in heavy industry is also a characteristic of Guangdong. If we divide heavy industry into mining, raw material mining and manufacturing processing, the average annual growth of the manufacturing processing industry after 1978 was 15.7 percent. The proportion of manufacturing processing industry to heavy industry rose from 50 percent in 1978 to 64.4 percent in 1989.

This phenomena violates the nation-wide tendency. The growth rate and the share of raw material and mining exceeds that in the manufacturing processing.

Table 10 COMPOSITION AND GROWTH OF GROSS AGRICULTURAL OUTPUT

	gross agricultural output	crop farming	forestry	animal husbandry	sideline products	fishery
[composition:real]						
1950	100.0	78.0	0.4	13.1	7.4	1.2
1978	100.0	66.1	5.5	14.8	9.7	3.8
1989	100.0	48.2	6.6	18.3	17.5	9.4
[average growth:real]						
1950-78	4.1	4.3	14.9	4.9	6.2	5.3
1978-89	7.1	4.2	8.0	9.7	13.4	13.2

Note: Figs for 1950, 1978, 1989 are at constant prices in 1957, 1970, 1980 respectively.

Source: as for Table 3.

Since the reform, Guangdong's industrial structure has shown a tendency of increasing reliance on light or processing industries. This is different not only from the national industrial structure but also from that of Guangdong in the pre-reform period.

(d) Petty-Clark's Empirical law

Guangdong's industrial structure was discussed above. To analyze Guangdong's economic development since the reform, Petty-Clark's empirical law is applied. Income composition ratio by type of industry, excluding secondary industry, is consistent with the empirical law. The income and labour composition ratio of primary industry is decreasing, and the decrease in the income composition ratio is slightly greater than in the labour composition ratio. Therefore, comparative labour productivity, which is the income composition ratio divided by labour composition, is gradually declining. Though the income and labour composition ratios of tertiary industry is rising, the increase in the income composition ratio is not as much as that of the labour composition ratio. The comparative labour productivity is, as a result, decreasing. Despite a similar increase in the income and labour composition ratios in secondary industry, it deviates from the empirical law in that the increase in the labour composition ratio runs higher than the income composition ratio. A tendentious lowering of

Table 11 CHANGE IN INDUSTRIAL STRUCTURE

	Guangdong Province						China					
	light industry	heavy industry	(mining)	(raw materials)	(processing)	gross industrial output	light industry	heavy industry	(mining)	(raw materials)	(processing)	gross industrial output
[composition:real]												
1950	88.9	11.1	N.A.	N.A.	N.A.	100	64.5	35.5	(15.3)	(42.8)	(41.9)	100
1960	68.3	31.7	N.A.	N.A.	N.A.	100	33.4	66.6	(13.1)	(39.5)	(47.4)	100
1970	64.8	35.2	N.A.	N.A.	N.A.	100	46.2	53.8	N.A.	N.A.	N.A.	100
1978	57.6	42.4	(8.1)	(41.9)	(50.0)	100	43.1	56.9	(12.0)	(35.5)	(52.5)	100
1985	67.5	32.5	(6.1)	(37.4)	(56.5)	100	47.4	52.6	(12.6)	(37.7)	(49.7)	100
1989	68.7	31.3	(4.5)	(31.1)	(64.4)	100	48.9	51.1	(11.6)	(39.4)	(49.0)	100
[average growth:real]												
53-57	14.9	25.2	N.A.	N.A.	N.A.	16.4	12.9	25.4	N.A.	N.A.	N.A.	18.0
58-62	3.0	10.1	N.A.	N.A.	N.A.	4.4	1.1	6.6	N.A.	N.A.	N.A.	3.8
63-65	14.7	25.5	N.A.	N.A.	N.A.	17.4	21.2	14.9	N.A.	N.A.	N.A.	17.9
66-70	8.1	15.0	N.A.	N.A.	N.A.	10.2	8.7	15.0	N.A.	N.A.	N.A.	12.0
71-75	6.6	13.5	N.A.	N.A.	N.A.	9.1	7.9	10.3	N.A.	N.A.	N.A.	9.3
76-80	9.1	7.1	N.A.	N.A.	N.A.	8.3	11.5	8.2	N.A.	N.A.	N.A.	9.6
81-85	18.2	13.1	N.A.	N.A.	N.A.	16.4	13.5	10.7	N.A.	N.A.	N.A.	12.0
86-89	25.2	24.4	N.A.	N.A.	N.A.	24.7	15.4	13.7	N.A.	N.A.	N.A.	14.6
53-78	8.6	16.4	N.A.	N.A.	N.A.	10.6	9.3	13.8	N.A.	N.A.	N.A.	11.4
79-89	19.8	14.2	(7.2)	(10.1)	(15.7)	17.8	14.3	10.7	(10.3)	(11.7)	(10.0)	12.4

Note: Figs in () are share of heavy industry.

Source: Tables 3 and 4.

comparative productivity in secondary industry has resulted. The higher income composition ratio compared with the labour composition of secondary industry is the logical outcome of China's development strategy, as mentioned before.

The comparative labour of productivity shown in Table 12 is the income composition ratio of each sector divided by the labour composition ratio. It is also the ratio of labour productivity of each sector to the total labour productivity. If this ratio is greater than one, the labour productivity of the sector is higher than total labour productivity and vice-versa. Table 12 shows that the ratio, i.e. comparative productivity of primary industry, is below one and others are more than one. This is consistent with the empirical law. But it is in two ways characteristic of Guangdong and China. First, the comparative labour productivity of secondary industry is much higher than that of tertiary industry. This means that the labour productivity in secondary industry is larger than in tertiary industry. Secondly, comparative labour productivity in the three sectors is decreasing. This indicates that the increasing rate of labour productivity has been decreasing relatively in each industry. Precisely speaking, the gap between labour productivity in primary industry and total labour productivity is widening, whereas that between the secondary and tertiary industries and total labour productivity is narrowing. The low rate of labour productivity increase in secondary and tertiary industries compared with total labour productivity reflects the strong labour absorbency of each sector. The range in the lowering of comparative labour productivity is high for secondary industry in Guangdong, whereas it is high for tertiary industry in China. This proves that it is secondary industry which has a higher labour absorbency in Guangdong whereas in China this is the case with tertiary industry. The comparative labour productivity of secondary industry in China showed a slight decrease from 1978 to 1984, but has subtly increased from 1984 to 1989. It is clear that the labour absorbency of the industrial sector was weak in the first stage of the reform, shifting to the labour saving structure in the second stage. In conclusion, from the analysis of comparative labour productivity, the industrial sector in Guangdong is labour intensive while it is labour neutral in China.

Finally, we examine through the index of differences of comparative productivity whether the allocation of resources is efficient in all industries. There has been a tendency for comparative labour productivity in secondary and tertiary industries to decline since the reform in Guangdong. This means that production factors go forward in the direction of minimizing the differences of each labour productivity. We are unable to find out whether productivity differences in total industries are minimizing without a reference to the index of differences of comparative labour productivity. To clarify this, We use the total index of differences of comparative labour productivity. This is the index of differences of comparative labour productivity in each industry which is calculated by multiplying the difference between labour productivity in each industry and total labour productivity and the share of labour of each industry. The total index will be close to zero when the labour productivity differences

Table 12 CHANGE IN LABOUR PRODUCTIVITY

	Guangdong Province				China			
	primary	secondary	tertiary	total	primary	secondary	tertiary	total
[labour productivity:real GDP/labour]								
1978	330	2,738	1,529	812	359	2,470	1,750	894
1984	543	3,374	1,816	1,295	403	2,994	1,949	1,240
1989	743	4,778	2,945	2,185	544	4,256	2,500	1,682
[annual average increasing rate of labour productivity]								
1978-84	8.7	3.5	2.9	8.1	5.8	3.3	1.8	5.6
1984-89	6.5	7.2	10.1	11.0	1.6	7.3	5.1	6.3
1978-89	7.7	5.2	6.1	9.4	3.8	5.1	3.3	5.9
[comparative labour productivity]								
1978	0.41	3.37	1.88	1.00	0.40	2.76	1.96	1.00
1984	0.42	2.61	1.40	1.00	0.41	2.41	1.57	1.00
1989	0.34	2.19	1.35	1.00	0.32	2.53	1.49	1.00
[index of differences in comparative productivity]								
1978	43.7	32.6	11.1	87.5	42.3	31.0	11.2	84.5
1984	37.0	30.3	7.0	74.3	38.8	28.5	8.9	75.7
1989	35.4	29.2	7.6	72.2	40.7	33.5	8.7	83.0

Note 1: Labour productivity was calculated from the raw data of tables 3, 4.
(Unit: Yuan/person, year).

Note 2: Comparative labour productivity = $\frac{Y_i}{L_i} / \frac{Y}{L} = \frac{Y_i}{Y} / \frac{L_i}{L}$.

Note 3: Index of differences in comparative productivity

$$= \Sigma \left(\left| 1 - \frac{Y_i}{L_i} / \frac{Y}{L} \right| \times \frac{L_i}{L} \times 100 \right)$$

between each industry and total labour is diminishing, which means the labour productivity differences between industries are levelled. Though the labour productivity difference will never be absolutely levelled or the index will never be zero, even in the most advanced economies, the labour productivity differences between the three industries are being minimised, according to past experiences of developed economies. The indices' level for both Guangdong and China are high, but that for Guangdong is decreasing. This is because in the national industrial structure, production factors are not moving toward the minimization of productivity differences. It is ultimately inefficient viewed in terms of allocation of resources. Social and institutional reforms as well as enterprise reform are absolutely essential for the improvement of economic efficiency and the mobilization of production factors.

III POLICY IMPLICATIONS AND DEVELOPMENT STRATEGY

Having compared the economic performance of Guangdong and China since reforms began, we come to the policy implications and development strategies for Guangdong.

(1) *The comparison of structural changes between Guangdong and China.*

Table 13 summarizes the characteristics of structural changes in Guangdong and China by industrial structure, employment structure, manufacturing structure and trade structure. We can clearly observe the differences in changes of industrial structure between Guangdong and China as follows.

- (a) While the structures of employment, industry, and trade in Guangdong undergo a great change following reform, national structural changes are generally slow.
- (b) The economic efficiencies of Guangdong and China are different. In the Guangdong economy the rate of increase in both labour productivity and capital efficiency are very high, whereas in China it is comparatively low.
- (c) Although the economic growth of both China and Guangdong is industrial-leading, the contents of their industrialization are different. The major economic production in Guangdong consists of labour intensive goods such as consumption goods, the labour absorbency of the industrial sector is strong. Mainly light and processing industries form the pattern for Guangdong. The industrialization of Guangdong leans toward the labour-using type if classified by production factors. In contrast to this, the pattern of national industry is from consumption goods to production goods. They belong to the "heavy, light, raw materials, processed all set-in-one type". These can be said to be of the labour neutral type.

- (d) The other difference is in the structure of trade. Guangdong's trade structure is characterized by a high export dependence. Industrial products are the major export. Therefore, the income elasticity of exports is also high and the Guangdong trade balance has basically maintained a surplus. This trend has strengthened in recent times. The structure of trade has completely turned to be external-oriented. On the other hand, the export GDP ratio of China after the reform increases but it are just half of that of Guangdong. For China, half of the export products is agricultural products, the rest are industrial goods. The income elasticity of exports is very low. Therefore, the "ceiling of trade balance" is low and often acts as brake on economic development.

Table 13 DIFFERENCES IN THE INDUSTRIAL STRUCTURE IN GUANGDONG AND CHINA

	Guangdong Province	China
<p>[Industrial Structure]</p> <ul style="list-style-type: none"> - Capital-labour ratio - Rate of investment - Difference of labour productivity <p>- Change in industrial structure</p>	<p>[Manufacturing leading Type]</p> <ul style="list-style-type: none"> - low (2~3) - high (30%) - reducing <p>- average (8)</p>	<p>[Manufacturing leading Type]</p> <ul style="list-style-type: none"> - high (4~5) - high (30%) - stay even <p>- average (6)</p>
<p>[Employment Structure]</p> <ul style="list-style-type: none"> - Labour Absorbency - Labour Absorbent sec. - Labour productivitu <p>- Change in employment structure</p>	<p>[Comparatively Elastic]</p> <ul style="list-style-type: none"> - 2.7% p.a. - industry (55%) - high (9.4%) - large (11) 	<p>[Inelastic]</p> <ul style="list-style-type: none"> - 3.0% p.a. - service (59%) - low (5.9%) - average (6)
<p>[Manufacturing Structure]</p> <ul style="list-style-type: none"> - Rate of industrial production - Industrial output - Labour absorbency <p>- Change in manufacturing structure</p>	<p>[Light industry, Processed Type]</p> <ul style="list-style-type: none"> - high (40%) - mainly consumption goods - high (labour-using industrialization) - large (11) 	<p>[Heavy & Light, Material & Processed, Set-in-One Type]</p> <ul style="list-style-type: none"> - high (47%) - consumption goods and production goods mixed - low (labour-neutral industrialization) - average (6)
<p>[Trade Structure]</p> <ul style="list-style-type: none"> - Dependence on export - Composition of export goods <p>- Trade balance</p> <p>- Change in export structure</p>	<p>[External]</p> <ul style="list-style-type: none"> - high (25%) - industrial goods 70% (income elasticity of export is high) - basically surplus maintained - large (11) 	<p>[Neutral]</p> <ul style="list-style-type: none"> - average (13%) - agricultural products and industrial goods mixed (income elasticity of export is low) - "ceiling on a trade balance" is low - small (5)

In the above, we have compared the changes in the economic structure of Guangdong with those of China. Although both aimed at industrialization, the degree and direction of structural changes are very different. Compared with China, the structural change in Guangdong is very obvious and economic efficiency is high. The major reason for this is the reform of the economic system which incorporated the market principle into the economy. It is Guangdong's development strategy which accounts for the formation of an external-oriented production structure which reflects the situation of production factors.

(2) *External-oriented development strategy and internal-oriented development strategy*

There are different policy implications behind the differences in economic performance between China and Guangdong. In contrast to the typically external-oriented development strategy of Guangdong since the reform, the import-substitution policy which emphasizes the domestic market can be seen in China. Why have they become different development strategies? Though Guangdong was granted special policies and measures by the central government, the province has also been affected by the central government's economic policies. Therefore, we should examine the national economic policies first and then the development strategies of Guangdong.

The major national economic policies, until recently, were a mixture of import-substitution and export-orientation. Concerning the domestic market, there is predominantly import-substitutive industrialization. The same goes for Guangdong. In the case of trade policy, for instance, not only all imported consumer goods but also locally available raw materials as well as intermediate and capital goods produced by domestic enterprises are heavily taxed. This policy encourages maximum utilization of locally available raw materials, spare parts and capital equipment in producing consumer goods for the domestic market. The policy of foreign exchange is also consistent with this import-substitution policy. In order to import advanced technology, equipment and machinery for modernisation at a cheap price, the exchange rate is set at a high level. Other policies including those for price, exchange, low interest rates and allocation of finance also support the import-substitution policy since they inevitably distort the relative price of production factors and consequently promote labour-saving or capital-intensive production. This is also very clear drawing on the experiences of developing countries. If judging from the situation of production factors, given an abundant labour force, it is reasonable for China to choose labour-intensive production. However, since China has proceeded with import-substitution industrialization, the labour absorbency of industries has weakened, and a labour neutral industrial structure has been formed. Although a balance between light and heavy industries and consumer and production goods has been maintained within the industrial structure in

China, an inefficient economic structure together with surplus labour, high cost and low quality products has also resulted when compared to Guangdong.

Guangdong also shares the same series of economic policies. Therefore, import-substitution is also a premise of her industrialization strategy. However, the basic difference in strategies between China and Guangdong is that unlike most other provinces in China, Guangdong aims at the foreign markets rather than the internal market. The reliance on foreign markets has increased in recent years. This industrialization targeting foreign markets brings about many advantages for Guangdong's economic development. First, a competitive market has been established. Secondly, owing to the principle of comparative advantages in foreign trade, goods has been produced according to the situation of production factors. The predominant industrial structure in Guangdong is labour-intensive light and processing industries. Thirdly, the market with no limits on economic scale makes the expansion of economic scale possible.

Moreover, the existence of abundant export enterprises proves that Guangdong is not affected by the negative effects of the import-substitution policy. Instead, it has on some occasions benefited from the policy. For example, the policy has neutral effects on those offshore export companies importing products, from raw materials to capital goods and exporting those products processed and recomposed. In this case, the relative price of production factors will not be distorted since the raw materials are imported tax free and all the products are exported. The effects of a high exchange rate policy are also neutral. Technology most suitable for producing export goods can be used in producing goods aimed at local consumption for those industries which produce goods both for local and foreign markets; thus, modernizing the designs and raising the quality of locally consumed goods. This also helps to cut the cost of production. In fact, the competitive power of Guangdong's light industrial products such as apparel products, plastic goods and some electric appliances has been raised in the national market.

We have to add one more reason as to why Guangdong can have a labour-intensive industrial structure which effectively responds to the production factors. Following the reform Guangdong has enjoyed a series of privileges granted by the central government, but privileges related to financial and treasury aspects are limited. Therefore, in order to raise funds for infrastructure construction and investment in plant and equipment, Guangdong has relied mainly on loans from domestic and foreign financial institutions and bond issues. Since the cost of procurement is determined by the market mechanisms, resources can be rationally allocated.

We have shown the differences in the development strategies between Guangdong and China. Since their development strategies are a mixture of import-substitutive and export-oriented policies, we can, strictly speaking, classify these neither as import-substitutive nor export-oriented. We can conclude that

the internal-oriented strategy has resulted in China, because of domestic oriented development strategies, which for the sake of domestic market emphasized import-substitutive policies. On the contrary, external-oriented strategies, taken in Guangdong emphasized the foreign market share.¹⁸ These external-oriented strategies which encourage export-oriented policies taken within the import-substitutive framework are also shared by Korea, Malaysia, Thailand etc. Guangdong has achieved rapid economic growth by adopting these external-oriented strategies as Asia's NIE's and ASEAN countries do.¹⁹

CONCLUSION

By analyzing and comparing the economic performance of Guangdong and China after the reform and open-door policy, and having brought out their individual policy implications, the result has been a clarification of the differences in the economic development strategies. By using its advantages in an economic environment as an experimental region for the implementation of the reform and open-door policy and a neighbour of Hong Kong, Guangdong has pursued marketization together with industrialization; the export of labour intensive products has been suitable to the actual situation of factor resources, such as a lack of capital and a surplus of labour. It is a fact that the prosperity of such "down-stream industry" has now gained the power to drag the "up-stream industry" along. Facing these realistic requests, the Guangdong government has reviewed its economic development in these ten years, and has emphasized promotion of the raw materials and intermediate goods industries and preparation of infrastructure for its import goals of the next ten years to the year 2000. The Guangdong economy, after the reform and open-door policy, has stepped steadily towards the same passage taken by the Asian NIE's and the ASEAN countries that is from labour intensive industry whose purpose is to export, towards material industry which produces raw materials and machinery parts.

However, there are many problems blocking the economic development of Guangdong. Although the marketization of Guangdong is pre-eminent in China, it is still in the process of reforms. The production factors of the industrial structure in Guangdong are moving to decrease the difference in productivity, but not only is it slow in speed but the differences in productivity between industries is also large. This is caused by an improper allocation of factor resources. In Guangdong, reflecting the progress in price reform, the price mechanism functions well in the production goods market, but not in the production factors market because of the lack of competition. Therefore, it is essential to proceed with further along social and institutional reforms for the fluidization of production factors. To be more precise, the largest problem of economic structural reform is the reform of state-owned enterprise so as to be competitive with enterprises owned by other bodies on an equal footing, and to establish a competitive organization of industry.

NOTES

1. Heard at the Systems Reform Office, Government of Guangdong province on May, 1991. Recent and Comprehensive work is Wu (1990).
2. Heard at the Systems Reform Office, Government of Guangdong Province on May, 1991. However, according to Wen (1991), fixed price is now only used for national planned purchase and retail, and although floating prices are used for the important products such as sugar cane, hemp, tobacco, tea, wood material, other products are sold at market price.
3. Joint forms also include joint venture of state-owned enterprise and collective enterprise, or collective enterprise and private enterprise.
4. The Guangdong government has applied to the central government about the reform plan of state-owned enterprises which introduced the stock system in order to separate government and enterprises. The plan framed by the Guangdong government aims to separate the government and enterprises under a public ownership system and to make state enterprises more efficient and profitable by giving them a similar function to private enterprise. For further information on the enterprise reform, see Yi (1989) and Komia (1989).
5. Facing the South China Sea and linked to Hong Kong and Macau by the Pearl River, Guangdong and Fujian Province are famous as the birthplace of many overseas Chinese. In 1988 Hainan special administrative region was separated from Guangdong province and promoted and became an independent province. Guangdong province has an area of 180 thousands km² (1.9% of area in China) of which approximately 23% is flat land. The population as of end of 1989 was 60.24 million (5.4% of population in China).
6. China has introduced a new SNA Method of macro-economic statistics since 1984, but still depend on traditional NPS statistics. Although, we need more care when we use these statistics for analysis since there may be unexpected restrictions, it is still meaningful to know the economic development in the long term by using the method based on the economic development theory.
7. See Liang (1988 and 1990).
8. In China the economic adjustment made during 1983~84 are called “一鬆一緊”, and on the contrary the tightening of economy in 1989 is called “雙緊”.
9. One of the collective-owned enterprises which I visited in Guangdong was making children's garments. 10% of their gross out put was processing on commission from Hong Kong, 90% are their own, and most of the latter were exported. Because they have learnt the design and the technology from processing on commission from Hong Kong, the quality of their own products were indistinctive if compared to the ones for Hong Kong. Also, in Guangdong many trade fairs are held by the Hong Kong Trade Development Department and the Guangdong Trade Fairs.
10. The amount of accumulation consists of fixed assets and circulating fund. Thus, in this text, saving share of income means investment share of income including inventory investment.
11. Between 1970-78, the average share of the production sector in investment was 74.2 percent while the average share of the non-production sector in investment was 25.8 percent. However, between 1979-85, the share of the production sector increased to 49.7 percent while the share of the non-production sector decreased to 50.3 percent.
12. $COR (K/L) = \text{Capital per capita } (Y/L) \div \text{Labour productivity } (Y/L)$
13. Statistics on labor force population in Guangdong are not available. Thus, the analysis is based on only the number of employment.
14. The primary industry, the secondary industry, and the tertiary industry are composed of agriculture; industry, construction; transportation, mailing service, power supply, commercial industry and restaurant respectively.
15. The share of agricultural output in Guangdong's gross rural society output was 68.4 percent. However, the share dropped below 50 percent in 1987 and decreased further to 47.9 percent. In contrast, the share of industry,

construction, transport and restaurant and service trade increased from 20.5 percent, 4.1 percent, 0.9 percent and 6.1 percent to 36.3 percent, 5.6 percent, 3.5 percent and 6.7 percent respectively. See Chen, Kesuan (ed) (1989) p. 121 and *Statistical Yearbook of Guangdong 1990*.

16. The comparative price difference of the agricultural and industry sector were doubled in these 11 years.
17. See GGSEDRC (1990) p. 35.
18. See Komiya (1984) and Sakai (1989).
19. There is a large volume of literature on the economic development of Asian countries. For the development pattern, see Balassa (1981), Chen (1979 and 1988) and Watanabe (1986).

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